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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,472	03/29/2004	Paul L. Corredoura	10021250-1	8099

7590 09/14/2007  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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BAYARD, EMMANUEL

ART UNIT	PAPER NUMBER
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2611

MAIL DATE	DELIVERY MODE
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09/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/814,472	<b>Applicant(s)</b> CORREDOURA ET AL.	
	<b>Examiner</b> Emmanuel Bayard	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This is in response to communication filed on 7/10/07 in which claims 1-6 are pending. The applicant's arguments have been fully considered but they are not persuasive enough. Therefore this case is made final (see Examiner response below).

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al U.S. Pub No 2003/0076899 A1 in view of Kodama et al U.S. Patent No 7,023,324.

As per claim 1, Kumar et al teaches an upconverting circuit comprising: a clock for defining a sequence of input polyphase cycles (see fig.1 element 40 ); a polyphase component generator that provides N.sub.p polyphase components at each input polyphase cycle, wherein N.sub.p>2 (see fig.1 element 38 and page 6, paragraph [0044]); a buffer is the same as the claimed (memory) that stores said polyphase components from at least one polyphase cycle prior to the current polyphase cycle (see page 7, paragraph [0048]); a plurality of filters, each filter processing a plurality of said polyphase components stored in said memory to generate a filtered polyphase

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component corresponding to that filter (see fig.1 elements 42a-42m and page 6 [0046] and page 7 [0048]).

However Kumar et al does not teach a multiplexer that outputs said filtered polyphase components in a predetermined order to generate a filtered output signal.

Kodama et al teaches a multiplexer that outputs said filtered polyphase components in a predetermined order to generate a filtered output signal (see fig.13a col.17, lines 29-34).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Kodama et al into Kumar as to select the sub-carrier in such a manner that the frequency position where the large noise component would be present may be previously avoided so that the communication having higher reliability could be realized as taught by Kodama (see col.21, lines 37-40).

As per claim 2, Kumar does teach wherein each filter utilizes the same functional relationship to generate said filtered polyphase components (see page 4 [0033]).

As per claim 3, Kumar teaches a Buffer (memory) (see page 7, paragraph [0048]). Furthermore implementing a shift register in the (memory) buffer of Kumar would have been obvious to one skilled in the art as to hold the binary word representing the sampled value for the time duration.

As per claim 4, Kumar teaches wherein said filters are finite impulse response filters (see page 6 [0045]).

As per claim 5, Kumar teaches wherein said filters generate a filtered polyphase

component that depends on a non-linear combination of said polyphase components (see page 4 [0033]).

As per claim 6, Kumar teaches wherein said polyphase component generator receives one pair of digital signals in each polyphase cycle (see fig.1 elements 26 and 28).

### ***Response to Arguments***

1. Applicant's arguments filed 7/10/07 have been fully considered but they are not persuasive.

In page 4, paragraph 3 of the response, applicant argues that Kumar only one signal channel from the mixer 26 is processed to generate a single polyphase component not a plurality of polyphase components as claimed. Examiner respectfully disagrees.

In fact fig.1 of Kumar shows that two signal channels from mixers 26 and 28 are processed in combinations with the polyphase generator (see fig.1 element 38), which output multiple polyphase components (CK1...CKm) to generate a plurality of polyphase components (see fig.1 output of element 14). Therefore applicant arguments are moot and these claimed limitations are clearly met by Kumar.

In addition, applicant states that Kumar does not teach a memory for storing the polyphase components. Again Examiner respectfully disagrees.

In fact fig.1 of Kumar shows a polyphase generator (see element 38) that outputs multiple components (CK1-CKm) in combination with sampler and A/D converters to generate the plurality of digital polyphase components. These digital

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components are stored in a buffer located at the A/D converters (see page 7, [0048]).

Therefore applicant's arguments are moot and these claimed limitations are clearly met by Kumar.

Finally applicant argues the Multiplexer of Kodama in combination with Kumar would not teach the claimed limitation because the examiner has not stated as where to place the Multiplexer. Examiner respectfully disagrees.

In fact Kodama clearly shows that the multiplexer is located as the output of the polyphase filters (see col.17, lines 29-34 and fig.13a). The upsampler (302) and the adder (303) may be replaced by a multiplexer. In response to applicant's argument that "the system would lose the speed advantage by the parallel processing", the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Since the prior arts structure are capable of performing the intended use, then they meet the claim limitation as stated the previous office action date 4/25/07 and this case is made final.

### **Conclusion**

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571 272 3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9/11/2007

Emmanuel Bayard  
**EMMANUEL BAYARD**  
**PRIMARY EXAMINER**  
Art Unit 2611

